

REMARKS

Claims 1-5 and 10 have been canceled. Claim 6 has been amended. New claim 13 has been added. No new matter has been added. Claims 6-9 and 11-13 remain in the application. Reconsideration and reexamination is respectfully requested.

In paper 3, claims 1-5 and 10 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent Number 6,678,794 (Talyansky *et al.*). Claims 1-5 and 10 have been canceled.

In paper 3, claim 6 was objected to as being dependent on a rejected base claim. Claim 6 has been rewritten in independent form.

In paper 3, claims 7-9 were allowed.

In paper 3, claim 11 was rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent Number 6,493,801 (Steeley, Jr. *et al.*). Applicant respectfully traverses.

Claim 11 specifies storage, in a cache, that indicates whether an entry has been transferred from another cache hierarchy. The examiner cites Steeley, Jr. *et al.*, column 7, lines 45-50. The cited text refers to figure 3, which is a directory, which specifies the owner of every entry referenced in the directory. However, ownership does not specify whether an entry has been transferred from another cache hierarchy. Consider, for example, a system as in figure 1 of the present application. Assume that processor 1 owns a dirty copy of a line, and assume that processor 2 requests the line. Since the line is dirty, processor 1 will relinquish ownership and copy the line to memory, and processor 2 will receive the modified line. Processor 1 may then evict the line. Processor 2 may then be the only processor with a copy. A directory will indicate that processor 2 is the owner, but a directory will not indicate that the line was transferred to processor 2 from the cache of another processor.

In paper 3, claim 12 was objected to as being dependent on a rejected base claim. As discussed above, applicant submits that base claim 11 is allowable.

Support for new claim 13 may be found, for example, in figures 1 and 3, and page 6, lines 19-26.

The following comments are in regard to other art made of record by the examiner.

U.S. Patent Numbers 6,542,861 and 6,490,671 do not teach or suggest incrementing a counter when an entry in a cache memory transitions to a modified state; decrementing the counter when a modified entry is evicted from the cache memory; and evicting at least one modified entry from the cache memory when a count in the counter exceeds a predetermined threshold, as specified in claim 6.

U.S. Patent Numbers 6,542,861 and 6,490,671 do not teach or suggest determining the number of dirty entries in a first cache memory that have transferred from another cache hierarchy; and evicting from the first cache memory, at least one dirty entry that has transferred from another cache hierarchy, when the number of dirty entries that have transferred from another cache hierarchy exceeds a predetermined threshold, as specified in claim 7.

U.S. Patent Numbers 6,542,861 and 6,490,671 do not teach or suggest marking entries in the first cache hierarchy that have transferred from another cache hierarchy; determining the number of dirty entries in the first cache memory; and evicting from the first cache memory, a dirty entry that has transferred from another cache hierarchy, when the number of dirty entries in the first cache memory exceeds a predetermined threshold, as specified in claim 9.

U.S. Patent Numbers 6,542,861 and 6,490,671 do not teach or suggest storage for data that indicates whether an entry has been transferred from a cache hierarchy other than the first cache hierarchy, as specified in claim 11.

U.S. Patent Numbers 6,542,861 and 6,490,671 do not teach or suggest a hierarchy of levels, where an entry in one level is included in all lower levels; and, a counter, where a count in the counter indicates a total number of modified lines in the lowest level of the hierarchy, as specified in claim 13.

Entry of this amendment is respectfully requested. This application is considered to be in condition for allowance and such action is earnestly solicited.

Respectfully submitted,

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